

Section II

Bee Poisoning, Environmental Toxicology, Regulatory Issues

Registration Status of New and Old Insecticides

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Most pesticides have passed their review under The Food Quality Protection Act of 1996. Two products of importance to the PNW are still undergoing reregistration. One product, aldicarb (Temik), appears to be surviving the review with only changes being required to the label. For example, it is no longer a question of whether aldicarb will be registered on potatoes, but rather what will be the tolerance will be. EPA has proposed to reduce the tolerance from 1.0 ppm to 0.2. The registrant and the potato industry have proposed a tolerance of 0.6. Once this issue is resolved, the industry will request a shorter PHI and additional states be allowed use of this product. Fairing more poorly is carbofuran (Furadan). EPA has proposed to cancel all uses of this product, including field corn, potatoes, alfalfa and sugar beet. The registrant has mounted a vigorous defense of the product. An Administrative Law Hearing has been scheduled for the first week of February. The outcome of this hearing will be pivotal toward the continued availability of the product.

A large number of active ingredients are now available generically. A recent and important example of the generification of a product is imidacloprid, the insecticide with the highest sales in the United States and which recently became generically available. In the state of Washington 12 different companies hold registrations on 29 different products on potatoes alone. Two years ago, one company held four registrations. Most insecticides in Washington are available generically. The benefit to growers is direct and obvious, cheaper insect control costs. However, widely available generic insecticides, which tend to be broader in spectrum and cheaper than newer, patented products are having a detrimental impact on delivery of IPM programs.

In part in response to the wide availability of generic insecticides, companies have started launching package mixes of insecticides as part of their post patent protection strategies. Package mixes offer growers a broader spectrum of control. Registrants like to package a cheap, broad spectrum generic product with a newer patented product. Since the PNW potato industry has suffered from one new or reemerging insect pest per year for the last 5 years, growers are now more commonly facing the need to control multiple arthropod pests at time.

Growers will find package mixes attractive as they face the specter of new mixes of insect pests. In 2007, there was a single prominent insecticide package mix used in potatoes. In the subsequent year, growers will have access to at least six package mixes, and in excess of a dozen such mixes the following year. Package mixes on potatoes will include

Leverage (cyfluthrin + imidacloprid)
Endigo (lambda-cyhalothrin + thiamethoxam)
FMC (flonicamid + zeta cypermethrin)
MANA (lambda-cyhalothrin + imidacloprid), expect several others
(bifenthrin + imidacloprid)
Arysta LifeSciences (deltamethrin + clothianidin)

There are several other combinations being tested and other consideration.

Another interesting package mix that is currently available (just not on potatoes) is Dow AgroScience's Cobalt, which is a combination of chlorpyrifos and gamma-cyhalothrin.

While package mixes offer convenience, broader spectrum and efficacy, they do have at least two negative consequences. Combination of insecticides are often considered to be either a poor option for resistance management or actually a detriment to resistance management. The broader spectrum of a package mix can often have negative impact on beneficial organisms. Most often package mixes of insecticides include pyrethroid insecticides that are well known to flare aphids and mites. The widespread registration and use of package mixes may have some deleterious consequences on development of resistance and implementation of IPM programs.